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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,476	12/21/2001	Jimmy Kuo Chen	276440-21	9965

27521 7590 10/23/2003

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EXAMINER

NGUYEN, DONGHAI D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/027,476

Applicant(s)

CHEN, JIMMY KUO

Examiner

Donghai D. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Pri rity under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Information Disclosure Statement*

1. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### *Specification*

2. The abstract of the disclosure is objected to because it exceeds 150 words in length. Correction is required. See MPEP § 608.01(b).

3. The disclosure is objected to because of the following informalities: the phrase "10-15 MHz" (page 2, line 10 and claim 11, line 2) should be --10 MHz-15 MHz--.

Appropriate correction is required.

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: --A METHOD FOR HEATING A PLURALITY OF MICROELECTRONIC COMPONENTS--.

### *Claim Rejections - 35 USC § 112*

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claims 10 and 11 recites the limitation "the frequency" in line 1. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-7, 10-11, and 13 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chan et al.

Chan et al disclose a method for heating a plurality of microelectronic structures (14/16/17) attached to a non-metallic substrate (21), wherein each of the plurality of microelectronic structures is comprised of a metallic material (conductive pad/solder), and ones of the plurality of metallic microelectronic structures are insulated from other ones of the plurality of microelectronic structures (Figs. 1-2), the method comprising the steps of: placing the non-metallic substrate and the plurality of microelectronic structures in an oscillating electromagnetic field (23/24), whereby the plurality of microelectronic structures are heated by the oscillating electromagnetic field and the non-metallic substrate is essentially not heated by the oscillating electromagnetic field (Col. 2, lines 46-48); maintaining the non-metallic substrate and the plurality of microelectronic structures in the oscillating electromagnetic field until each of the plurality of microelectronic structures obtains a defined heat-treatment temperature substantially greater than an ambient temperature (col. 2, lines 65-68); removing the non-metallic

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substrate and the plurality of microelectronic structures from the oscillating electromagnetic field and cooling the plurality of microelectronic structures to the ambient temperature (Note Chan et al inherently disclose these two steps when he finishes applying the electromagnetic field).

To the extending that Applicant disagrees that the plurality of structures are microelectronic. Since Chen's method discloses all the steps that are necessary for and/or capable of heating a plurality of microelectronic structures for localized heating of the structures. It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply Chen's method for a localized heating of a plurality of microelectronic structures by oscillating electromagnetic field. Note that the claims do not specifically define what are the "microelectronic structures".

Regarding claims 2 and 3 see Col. 3, lines 3-11.

Regarding claims 4 and 10-11, Chen et al disclose tuning the oscillating electromagnetic field to selectively heat the ferromagnetic material (See Graphs 5-8).

Regarding claims 5 and 6, Fig. 3 shows the range of temperature depends on the composite of the ferromagnetic material, therefore, it capable of obtaining the temperature greater than 800 °C and 1300 °C.

Regarding claim 7, Figs. 2-3 show generating the oscillating electromagnetic field between a pair of parallel plates (23/24).

Regarding claim 13 also met as set forth in claim 1 (Fig. 2).

9. Claims 8 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al.

It would have been an obvious matter of design choice for generating the oscillating electromagnetic field by using a hairpin coil or a coil comprised of a copper tube formed into a coil shape, since Applicant has not disclosed that the claimed specific device for generating the oscillating electromagnetic field by using a hairpin coil or a coil comprised of a copper tube formed into a coil shape, solves any stated problem or is used for any particular purpose and it appears that the invention would perform well with the device (23/24) that generating the oscillating electromagnetic field of Chan et al.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al in view of US Patent 5,340,537 to Barrett.

Chan et al do not disclose measuring a temperature of the plurality of microelectronic structures by applying a heat-indicating paint to the plurality of microelectronic structures prior to the maintaining step. Barrett teaches the step of applying a heat-indicating paint to the plurality of microelectronic structures for measuring a temperature (col. 3, lines 9-17). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Chan et al to apply a heat-indicating paint to the plurality of microelectronic structures as taught by Barrett for measuring temperature.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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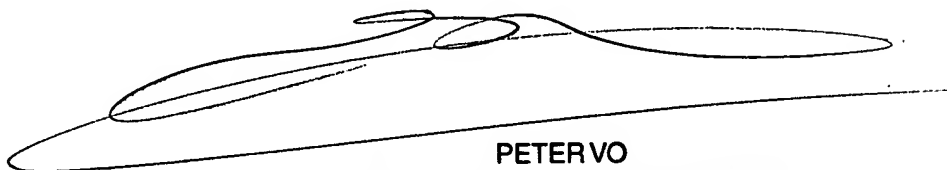
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghai D. Nguyen whose telephone number is (703) 305-7859.

The examiner can normally be reached on Monday-Friday (9:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (703) 308-1789. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

DN

A handwritten signature in black ink, appearing to read 'PETER VO', is written over a horizontal line.

**PETER VO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700**